

A Habitat Assessment Approach for Identifying Priority Nearshore Estuarine Conservation and Restoration Areas

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Abstract

A nearshore habitat inventory and assessment was conducted in South Puget Sound, Washington to evaluate habitat function in order to identify priority areas for conservation and restoration that will support the recovery of the region's salmonids. The study area encompassed Hammersley Inlet and Oakland Bay in Mason County, WA. The Squaxin Island Tribe and Taylor United Shellfish sponsored the project, which was funded primarily by the Salmon Recovery Funding Board.

This comprehensive assessment provides the foundation for future site-specific nearshore salmon recovery projects in study area. GIS-based models of habitat function were developed to process new and existing habitat data and evaluate the levels of existing habitat function. The models focus on key ecological functions that estuarine and nearshore marine habitats provide to juvenile salmonids, including: availability of prey resources, predator refuge, physiological refuge for acclimation to marine environment, and migration corridors. A scoring system was developed to characterize the relative contribution or impact of each habitat type and shoreline modification (e.g., bulkheads, docks, etc.) to each ecological function. The identification of priority areas for conservation and restoration incorporated the output of the habitat function model, as well as landscape ecology principles and best professional judgment considerations of ecosystem processes.